



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,272	10/12/2005	Koji Okada	89227.0010	6639
26021	7590	10/10/2007	EXAMINER	
HOGAN & HARTSON L.L.P. 1999 AVENUE OF THE STARS SUITE 1400 LOS ANGELES, CA 90067			HAMILTON, CYNTHIA	
		ART UNIT		PAPER NUMBER
		1795		
		MAIL DATE	DELIVERY MODE	
		10/10/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/553,272	OKADA ET AL.
	Examiner	Art Unit
	Cynthia Hamilton	1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10/12/2005, 1/17/2006, 3/17/2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-49 is/are rejected.
- 7) Claim(s) 4, 12-22 and 28-40 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 October 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/17/6/2), 1/17/6, 10/12/5.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

1. The examiner notes for the record that this application is a 371 application and therefore subject to restriction practice under the Lack of Unity standard for such applications. Claim 1 is the only independent claim. All claims appear to be drawn to the composition or a subspecies of the composition of claim 1 or a combination made with the composition of claim 1, thus all claims are examined.
2. The examiner notes for the record that the Figure 1 has been checked for all numbers being cited in the specification. Pages 180 and 181 have the full description of this Figure and there is a Brief Description of the Drawings present. The Drawing is approved.
3. The examiner notes the following special definitions in the specification as set forth by applicants. At page 36, applicants in reference a carboxyl group and a hydroxyl group as "a hydroxy hydrophilic group and later in the same paragraph reference both the carboxyl group and the hydroxyl group as having "a -OH group, so that the base polymer can be regarded as having a -OH group as a functional group. Thus, the base polymer is referred to as a base polymer having a hydroxyl group for convenience in description." Applicants intend hydroxyl group to include phenols as well. Thus any -OH group for examination purposes is considered an hydroxyl group.
4. The examiner also notes from page 36 lines 9-12 that the base resins claimed are inclusive of carbon-carbon double bond resins as well. This has been considered with examination as well. In view of this and the inclusion of (meth)acrylsiloxaneoligomer as choices for base resin component (A), there is no clear differentiation between components (A) and (B). The (meth)acrylsiloxaneoligomer reads on both (A) and (B) as it is an "methacryls" as well. The

other resins if having “acryl” or “methacryl” in their structure will read on both (A) and (B). The examiner is tasked in examination to use the “broadest reasonable interpretation consistent with the specification” of the claim language. In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). See particularly MPEP 2111. The examiner is also tasked during examination with respect to the claims to interpret as broadly as their terms reasonably allow. In re American Academy of Science Tech Center, 2004 WL 1067528 (Fed. Cir. May 13, 2004). The words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); Chef America, Inc. b. Lamb-Weston, Inc., 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004). Thus, (A) and (B) are considered to be the same compound if they can be read on the same compound in the prior art for examination purposes.

5. The examiner notes with respect to instant claims 11, 27 and 40, reproduced below, the language of “at least one kind selected from” is taken to mean as little as one kind of photoreaction initiator added to the composition meets the requirement. The broadest reading of this language is that only one epoxy resin added is sufficient to meet the limitation. The addition of one curing agent is enough in that a curing agent for the “acryl” compound would read on this “further” addition. IF applicants intend these claims to mean that an accessory component must have added a C-1 and a C-2 and a C-3 and a C4, the use of “at least one kind” and the use of “and/or” does not so require this limitation. The term “photopolymerization assistant” is

Art Unit: 1752

11. (original): The photosensitive resin composition as set forth in claim 2, further comprising, as an accessory component (C), at least one kind selected from: at least one kind (C-1) of a photoreaction initiator, a sensitizer, and a photopolymerization assistant; a flame retardant (C-2); an epoxy resin (C-3); and a curing promotion agent and/or a curing agent (C-4).

27. (original): The photosensitive resin composition as set forth in claim 23, further comprising, as the accessory component (C), at least one kind selected from: at least one kind (C-1) of a photoreaction initiator, a sensitizer, and a photopolymerization assistant; a flame retardant (C-2); an epoxy resin (C-3); and a curing promotion agent and/or a curing agent (C-4).

40. (original): The photosensitive resin composition as set forth in claim 28, further comprising: at least one kind (C-1) selected from a photoreaction initiator, a

sensitizer, and a photopolymerization assistant; an epoxy resin (C-3); and at least one kind (C-4) selected from a curing promotion agent and/or a curing agent.

The examiner also notes the following passage starting at the last line on page 117 :

The component other than the essential components is not particularly limited. For example, in the present invention, it is possible to use: at least one kind of photoreaction initiator (C-1), sensitizer, and photopolymerization assistant; and at least one kind selected from flame retardant (C-2), epoxy resin (C-3), curing accelerator (C-4), and/or curing agent. In the present invention, the substances of these groups are generically referred to as "accessory component (C)" so as to distinguish them from the essential components. Note that, in the present invention, the "accessory component (C)" means "other component" other than the essential components, so that the "accessory component (C)" and the "other component" are identical with each other.

Art Unit: 1752

The examiner notes that on page 119 in the specification applicants reference "the developing property improving additive" as a collective term for the "photoreaction initiator, the sensitizer and the photopolymerization assistant". On page 120 this group includes

(C-1). Among them, the photoreaction initiator is not particularly limited, but specific examples thereof include radical generating agent, photocation generating agent, photobase generating agent, photoacid generating agent, and the like.

6. The examiner notes that claim 41 is a product by process claim. Thus, however the photosensitive dry film resist is made it must in some way be made of the photosensitive resin composition of claim 1.

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

8. The disclosure is objected to because of the following informalities: On page 8, lines 16, "vinyleter" should be --- vinyl ether---; Page 12, lines 22, "acloyl" does not appear to be right, perhaps it is acryloyl?; Page 180, line 20, "limes" should be ---lines---.

Appropriate correction is required.

9. The information disclosure statement filed March 17, 2006 (there were two filed this date) fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. The reference not complying has been struck from the record and not

Art Unit: 1752

considered. It is DE 101 46 376. Applicants referenced a concurrently filed search report as the concise explanation but no such search report could be found in the record. All other references in this Statement were considered as they met the requirements.

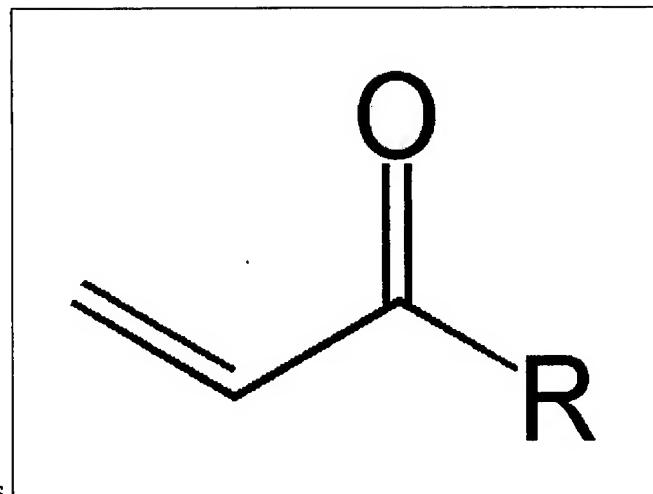
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The examiner has added to the record Machine made English translation of applicants' cited JP 10-000733 A reference. No methacryls or compounds that could be called so were found in JP 10-000733 A. JP 2002-317022 has been submitted for translation as the examiner cannot tell by the disclosure in English if the prior art reads on the instant invention at all. It is marked as an X reference in the PCT search.

11. Claim 4 and 14 are objected to because of the following informalities: IN line 2 of claim 4 and 14, "martial" should be --- material ---. Appropriate correction is required.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 1-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants in claims 1-49 have made use of the term "a (meth)acryls compound (B)". There is no clear definition for this term in the specification. The examiner understands that the (meth) part is in reference to both methacryls and acryls. Does the use of plural here reference the need for two or more acryl or methacryl groups in the compound (B), or does it reference the use of two or more separate acryl or methacryl compounds, or both? The



Wikipedia references acryl groups as and

defines an acryl group as:

In organic chemistry, the acryl group is the functional group with structure $H_2C=CH-C(=O)-$; it is the acyl group derived from acrylic acid. Compounds containing an acryl group can be referred to as "acrylic compounds".

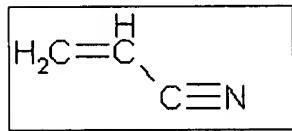
An acrylic compound is typically an α,β -unsaturated carbonyl compound: it contains a carbon-carbon double bond and a carbon-oxygen double bond, separated by a carbon-carbon single bond. It has therefore the properties characteristic for both functional groups :

at the $C=C$ bond: electrophilic addition of acids and halogens, hydrogenation, hydroxylation and cleavage of the bond

at the $C=O$ bond: nucleophilic substitution (such as in esters) or nucleophilic addition (such as in ketones). The carboxyl group of acrylic acid can react with ammonia to form acrylamide, or with an alcohol to form an acrylate ester.

In addition, since both double bonds are separated by a single C-C bond, the double bonds are conjugated.

However, when considering acryl in acrylonitrile the structure set forth by Wikipedia does not fit. Acrylonitrile is



and does not match the structure given above in the Wikipedia.

The POLYMER HANDBOOK, 4th ed, when referencing acrylic polymer starting on VII/96 references polymers made from acrylamide, methacrylamide, acrylonitrile, acrylates, ethacrylates, acrylic acid and methacrylic acid. Thus, this scope is broader than that of the Wikipedia if "acryl" is taken to be any compound with "acryl" in it. Are polymers included such as polymath "acryl"ic acid? In some claims there is a limitation of the term such as in claim 2 but there is still use of "at least one kind of" leaving open the addition of other "(meth)acryls" than those listed, thus leaving unclear the term with respect to these others. Thus, claims 1-49 have been found unclear with respect to the limits of the term "(meth)acryls" and held to be so unclear as to leave workers of ordinary skill in the art being unsure where the outside limits of this term are set. For examination purposes any compound with "acryl" or "methacryl" is taken as meeting the meaning of "a (meth)acryls compound (B)".

14. Claims 37-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 37 recites the limitation "the accessory component (C)" in line 2. There is insufficient antecedent basis for this limitation in the claim.

15. Claims 43-44 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. With respect to claim 43, it is not clear what is claimed. Is this a use claim? Is this a claim for properties inherent in the resist? Is this a method claim? There is no clear antecedent basis for “developer” in claim 41 or claim 1. What is being used as a developer? Thus, what is being limited is unclear at this point in claims 43-44. Claims 43-44 provides for the use of the photosensitive dry film resist, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. The same problem occurs in claim 45.

Claims 43-45 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

16. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

17. Claims 12-22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 12 requires that the base resin of the polyimide resin (A-1) be obtained by reacting a compound having a carbon-carbon double bond with a polyimide resin having a hydroxy group in its structure to form the photosensitive polyimide resin (A-1-2). It is

not clear from this claim language if the presence of the carboxyl group and/or the hydroxyl group is required in the photosensitive polyimide resin (A-1-2) which is now in claim 12 being a species of the base resin (A) of claim 1. IF there is intended no requirement for the presence of either a carboxyl group or hydroxyl group in the compositions of claim 12 then the photosensitive resins of claims 12-22 possess species outside the scope of claim 1 and thus fail to further limit the subject matter of claim 1 but instead expand the subject matter of claim 1.

Claim 14 in the last line on page 7 reference -OH or an unsaturated organic group having a carbon-carbon double bond in its structure. The striking of the limit of both -OH and unsaturated organic group also lends credence to this interpretation of claims 12-22. Page 37 of the specification filed reads as follows:

10 made of an phenolic derivative having an amino group; a
photosensitive polyimide resin (A-1-2), containing a hydroxyl
group, which has a carbon-carbon double bond; and a
soluble polyimide resin (A-1-3), containing a polymerizable
functional group, which contains at least either a carboxyl
group or a hydroxyl group.

This passage would support the narrower interpretation of the claim language that the hydroxyl group is present concurrently with the carbon-carbon double bond.

18. Claims 28-40 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 28-40 are dependent upon claim 2 which is limited to the choice of base resin component (a) as (A-1) or (A-2). Claims 28-40 select outside these two and require instead (A-3). Claims 28-40 would fall within the range of claim 2 only when the

polyimide has either carboxyl groups and/or hydroxyl groups present. Thus, at least part of the scope of claims 28-40 falls outside that of claim 2. Perhaps applicants meant to make claims 28-40 dependent upon claim 1?

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. Claims 1-8, 11 and 41, 43-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Kikkawa et al (US 6,025,113). With respect to instant claims 3-5, applicants limit the polyimide resin of claim 2, but do no require that it be used in the photosensitive resin composition. Thus, if polyamide resin (A-2) is selected then the resins read on claims 3-5 as well. With respect to instant claims 1-8, 11 and 41, 43-48, the compositions and dried layers on supports of the Examples 11-27 of Kikkawa et al anticipate the instant compositions and inherently have hydroxyl numbers reading in the instant claims if hydroxy and carboxyl are equivalents when referencing what is meant by hydroxyl equivalents in claims 6 and 7.

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 1-8 and 11 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohbayashi et al (4,608,333 cited by applicants). With respect to instant claims 1-8, 11 and 41, Examples 1-16 of Ohbayashi et al anticipate the instant compositions and dry photoresist wherein the instant (A) is the polyamide with COOH groups, and instant (B) methacryls is the added diethyl aminoethyl methacrylate. The added N-phenyldiethanolamine is the added photopolymerization assistant. With respect to instant claims 3-5, since a polyimide was not chosen then the limits of these claims do not change the polyamide choice and do not limit the composition to only the polyimide described. With respect to instant claims 6-8, the polymers of Ohbayashi et al are held to inherently have the required weight average molecular weight as they formed a film and inherently have the hydroxy equivalent of 3000 or less. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

23. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

24. Claims 1-8, 11-17, 22, 26, 41 and 43-49 are rejected under 35 U.S.C. 102(a) as being anticipated by Okada et al (WO 03/038526 A1) as evidenced by Okada et al (US 2004/0265731 A1). This rejection is based upon Okada et al (WO) which has a publication date of May 8, 2003 which is before the effective filing date of April 13, 2004. Applicant cannot rely upon the

foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15. Okada et al (US) is a sworn translation of Okada et al (WO) because it is the National Stage of the same WO application. Thus, while Okada et al (US) does not have a date sufficient to be used as prior art, Okada et al (US) is used as evidence in English of what is disclosed in Okada et al (WO). All reference in the rejection as to where the evidence is, is made in reference to Okada et al (US). With respect to instant claims 1-2, 6-8, 11, 41, and 43-49, Example 2 of Okada et al anticipates the instant invention wherein the species of polyimide is made from 4,6- resorcinol which yields the diamine with a phenol group, i.e. – OH group in polyimide. The compositions and elements made inherently have the ability to meet the intended uses and/or properties set forth in instant claims 43-45. With respect to instant claims 1-5, 11, 41 and 43-49, Example 10 of Okada et al anticipates the instant invention wherein the species of polyimide is made from diamine (2,2'-bis(3-amino-4-hydroxyphenyl)hexafluoropropane) which yields the polyimide with –OH groups. With respect to instant claims 1-5, 11-17, 22, 26, 41 and 43-49, Example 12 of Okada et al anticipates the instant invention wherein the species of polyimide is the same as that set forth in Example 11 with the addition of reacting the siloxane polyimide with glycidyl methacrylate to form a species of instant (A-3) photosensitive imide (methacrylsiloxaneoligomer). With respect to instant claim 26, the compositions of Example 12 inherently has the properties set forth. With respect to instant claim 1-2, , the Abstract of both Okada et al (WO) and Okada et al (US) anticipate the instant invention wherein the base resin component (A) is (A-1).

25. Claims 1-9, 11-20, 22-25, 27-42 and 46-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al (WO 03/038526 A1) as evidenced by Okada et al (US

2004/0265731 A1). This rejection is based upon Okada et al (WO) which has a publication date of May 8, 2003 which is before the effective filing date of April 13, 2004. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15. Okada et al (US) is a sworn translation of Okada et al (WO) because it is the National Stage of the same WO application. Thus, while Okada et al (US) does not have a date sufficient to be used as prior art, Okada et al (US) is used as evidence in English of what is disclosed in Okada et al (WO). All reference in the rejection as to where the evidence is, is made in reference to Okada et al (US). With respect to instant claims 1-9, 11-20, 22-25, 27-42 and 46-49, Okada et al teach all the variations with respect to photosensitive resin compositions and laminates wherein the base resin (A) is the polyimide resin (A-1) and/or photosensitive imide (meth)acrylsiloxane oligomer (A-3). The examiner does not reject claims 10 and 21 because the wording in [0209] is so garbled with respect to words such as “2-hydroxy-1,3-dimethachloxyethoxy)phenyl]propane, 2,2-bis [4-(methachloxyethoxy)phenyl] propane, 2,2-bis[4-(methachloxydiethoxy)phenyl]propane, 2,2-bis[4-(methachloxypolyethoxy)phenyl]propane” or “methachloiloxyethylhydrogenphthalate” for examples as to leave unclear as to whether the compounds of instant claims 10 and 21 are part of the disclosure of Okada et al. See particularly in Okada et al , the Abstract, [0001], [0026] to [0036] and [0056], [0059] to [0077], [0086] with respect to instant claim 6, [0119] to [0128], [0147]-[0159], [0133] to [0169] to [0174], [0209] at the 13th line from the bottomfo “glycidylmethacrylate”, [0210], [0212] for urethane acrylates, [0215] to [0222] for amounts of components A and B, [0223]to [0242] for photo reaction initiators, sensitizers, photopolymerization auxiliary agents and amounts used, [0243] to [0359] for fire retardants,

Art Unit: 1752

[0361] for fillers, reinforcing agents and [0362] for solvents , for polymerization inhibitors see [0450] and “(b) a polymerization inhibitor (10 mg of methoxy phenol)”, for teachings of forming dry photoresist laminates see [0367] to [0402], for methods of using the laminates with respect to development see [0416] to [0438] and the examples. While Okada et al does not disclose explicit examples which anticipate all of the instant claims 1-9, 11-20, 22-25, 27-42 and 46-49, they do make obvious the formation of the photosensitive compositions and dry film laminates and given examples of at least one component of each claim in their disclosure for use in forming the same materials as found in the instant claims. Combining prior art elements according to known methods to yield predictable results makes the compositions and elements of the instant invention *prima facie* obvious in view of the teachings of Okada et al with respect to instant base resin (A) is the polyimide resin (A-1) and/or photosensitive imide (meth)acrylsiloxane oligomer (A-3) for forming laminates employable as photosensitive cover layer films or photosensitive dry film resists as disclosed in [0001] of Okada et al.

26. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-5, 11 and 41, 46, 48 and 49 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 -35 of U.S. Patent No.7,141,614. Although the conflicting claims are not identical, they are not patentably distinct from each other because With respect to instant claim 1 wherein the species of instant polyimide resin (A-1) is selected, the photosensitive composition of claim 1 of the Patent anticipates the instant composition wherein present of R24 is required and is independently a hydroxyl group or a carboxyl group. Instant applicant's claims are broader and more generic than the Patent claims. Thus, instant applicant's claim 1 are anticipated by claim 1 of the Patent. See particularly See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993). Patent claims 34-35 disclose a Markush group of polyimide resins which read on the instant claim 2 invention wherein the Patent selection of R3 had an hydroxyl group or a carboxyl group attached. The compositions of the patent claims are inclusive of fire retardants as in Patent claim 8, photoreaction initiators and sensitizers and laminates as in Patent claims 29-33 and 5-13. The diamines for making the polyimides in Patent claim 1 makes obvious the instant claim 3 for the same purpose of forming laminates for imaging with soluble polyimides. Thus, the laminates and compositions of patent claims 1 –35 either anticipate the instant claims 1-5, 11 and 41, 46, 48 and 49 or make obvious the combining of (meth)acylic compounds, photoreaction initiators, flame retardants with the soluble polyimides having either –OH or –COOH groups for the formation of laminates in the manner set forth in the Patent claims. The combining of prior art elements according to known

Art Unit: 1752

methods as taught by the Patent claims according to known methods to yield predictable results is prima facie obvious.

2. Claims 1-2 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-147768 A as evidenced by the Machine English translation of JP 2000-147768 A. With respect to instant claims 1-2 and 11, the Example in [0028] to [0033] of JP 2000-147768 A anticipates the instant compositions wherein the alternative member of component (A) is polyimide resin (A-1) with carboxyl group in structure and acryl group as well. The translation is too obscure to read the full nature of the other examples of JP 2000-147768 A translated by machine.

3. Claims 1-2, 11, 23-24 and 41 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2000-147768 A as evidenced by the Machine English translation of JP 2000-147768 A. With respect to instant claims 1-2, 11, 23-24 and 41 and 46-47, the compositions and coated substrates of JP 2000-147768 A teach all the formation of polyimide resins with hydrophilic radicals and side chains with acrylic ester or methacrylic ester groups. The hydrophilic groups are either carboxyl groups or hydroxyl groups as a side group from the diamine used to make the polyimide. The acrylate esters are added by reaction of hydroxy acrylate, hydroxy methacrylate, glycidyl acrylate or glycidyl methacrylate which has a carboxyl group. The negative photosensitive polyimide composition also has added a photoinitiator and a copolymerization monomer and is imageable by UV irradiation and removable by alkaline water solution or /and organic solvent content alkaline water solution. This is set forth in the claims 1-11 on pages 1-2 of the machine translation of JP 2000-147768 A. The reason for this composition is to form insulation films for substrates inclusive of printed wiring board as set forth in [0002] and the material as disclosed in [0001] needs to be flexible in nature. The problem to

Art Unit: 1752

be solved by JP 2000-147768 A is found in [0004] which is to be able to remove the photosensitive polyimide not exposed to "optical hardening" in alkaline water solution or an organic solvent content alkaline water solution. The layer after hardening remaining and becomes an insulation film. As set forth above in the paragraph of "Claims 1-2 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-147768 A", a species of the generic claim is disclosed in a working example, however, the use of any of the polyimides set forth by JP 2000-147768 A with any of the optional components would have been the obvious use of simple substitution of one known element for another to obtain the results predicted by JP 2000-147768 A as well as being obvious to try as choosing from a finite number of identified predictable solutions with the reasonable expectation of success set forth by JP 2000-147768 A. The photoinitiator is added in [0012] as well as an anti gelling agent, i.e. a heat polymerization inhibitor, the solvents used are found in [0016] and photosensitizers found obvious to try are found in [0020] along with the optional modifiers of stabilizer and monomers set forth in [0021] inclusive of acrylates and methacrylates and in [0022] substrates to which the photosensitive polyimide is used to form an insulation layer there on is inclusive of printed circuit boards. The molecular weight of the polyimide of JP 2000-147768 A is 25,000 to 400,000 and preferably 30,000 to 200,000 in [0008] wherein teachings for the addition of the copolymerization monomer are also found as an option. Thus, with respect to instant claims 1-2, 11, 23-24 and 41 and 46-47, the compositions and elements are made prima facie obvious to obtain the negative polyimide compositions and insulation layers of JP 2000-147768 A. JP 2000-147768 A has been submitted for a more complete English translation, however such is not available at this time.

Art Unit: 1752

4. Claims 1-2, 11 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 59-068331 A as further evidenced by AN 1984:54190 from CAPLUS. AN 1984:54190 is the English abstract of JP 59-068331 A and sets forth a polyimide with carboxyl groups compounded with 2-ethylhexyl acrylate and benzyl dimethyl ketal coated onto a glass substrate and dried. This is a species which anticipates the invention of applicant's claims 1-2, 11 and 41 wherein polyimide resin (A-1) is chosen. "A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960); *In re Gosteli*, 872 F.2d 1008, 10 USPQ2d 1614 (Fed. Cir. 1989).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



CYNTHIA HAMILTON
PRIMARY EXAMINER

Cynthia Hamilton
Primary Examiner
Art Unit 1752

Application/Control Number: 10/553,272

Art Unit: 1752

Page 20

September 30, 2007